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ABSTRACT

This is the fourth of five documents compiled to report on the problem of innovation and change in the context of projects supported by the National Center for the Improvement of Educational Systems (NCIES) and the first in a series of two documents that examine in detail the Career Opportunities Program (COP) and its effects on COP aides, students, and the institutions involved. The first part of this document contains the summarized results of the research efforts conducted under NCIES sponsorship. An extensive appendix describes in detail the methodology of the study, including operational procedures, instruments, and field procedures. A related document is EA 004 862. (Author)

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INNOVATION AND CHANGE:

A Study of Strategies in Selected Projects Supported by the National Center for the Improvement of Educational Systems

FINAL REPORT

VOLUME IV:

CAREER OPPORTUNITIES PROGRAM
IMPACT EVALUATION (COP)

EA 004 861

December 22, 1972

Report No. AAI-72-88

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The present series of volumes relates to two separate but related activities supported by the same contract (#OEC-0-71-3714), awarded to Abt Associates, Cambridge, Mass. by the United States Office of Education, Office of Planning, Budgeting and Evaluation (OPBE) in July, 1971. One study (Volumes I-III) focuses on the problem of innovation and change in the context of projects supported by NCIES while the other (Volumes IV and V) examines in detail the Career Opportunities Program (COP), also supported by NCIES. This means that separate, although overlapping, groups of people and central staff were involved in the total effort. At the same time, a wide range of individuals associated with NCIES and its programs participated in the planning of the study.

Within the Office of Education, we would like to thank Dr. William Rhode of OPBE, through whose office the project was supported. Dr. Robert Hall of OPBE, the project monitor, was of great help to us as we struggled to execute the complex field activities and data analysis. His wise counsel and continued encouragement have made this completed study possible. We would also like to thank the representatives of the various programs within NCIES with whom we discussed plans for the case studies part of the project. Their knowledge of the programs made it possible for us to develop a design that was relevant both to the informational needs of the client and to the real world of the projects to be studied. These Program Directors include:

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Mr. Lloyd Briggs
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Dr. Malcolm Davis
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Ms. Joan Duval
Early Childhood

Mr. Marshall Frinks
School Personnel Utilization

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Pupil Personnel Services

Ms. Mary Jane Smalley
TTT

Dr. Dustin Wilson
Evaluation Leadership Program

Abt Associates' project staff was composed of two teams: those working on the COP evaluation and those working on the case studies. Dr. Sydelle Stone Shapiro directed the COP study and Dr. Marvin G. Cline directed the case studies while serving as the overall project director from January, 1972. Mr. John D. Lyons was project director from the beginning of the project until January, 1972.

The success of the case studies was dependent on the quality of the information collected by the field staff. Data collection and first draft case studies were prepared by:

Wendy Peter Abt
Joseph Beckmann
Kenneth Carlson
Marvin G. Cline
Patricia Cook
John Doucette
Ruth Freedman
David Geller
Michael Gilbert
Linda Hailey
Keith McClellan
James Meer
Peter Miller
Ricardo Millett

Joseph Beckmann also served as field coordinator. In addition to those field staff mentioned above, editorial contributions to the case studies were made by John Butenas, Jay Birdsong, Ellen Hays and Denise Sadigur.

The principal authors of Volumes I and III were Marvin G. Cline, Joseph Beckmann and John Doucette, with major contributions by Dr. Jean Grambs and Ricardo Millett. Michael Hughes prepared the extensive bibliography.

Unfortunately, we cannot mention by name those project directors, staff members and participants of the thirteen case study sites that we visited. To do so would violate the anonymity of the case studies. However, they know who they are and that they deserve great thanks for their cooperation.

The project benefitted greatly from the services of several consultants. Dr. Jeffrey Eiseman of the University of Massachusetts assisted in the construction of the rating scales and their analysis, Dr. Ronald Corwin of Ohio State University contributed to the conceptualization of the data analysis and Dr. Jean Grambs of the University of Maryland contributed extensively to the conceptualization of the results section and assisted in the preparation of the final chapters of Volume III.

Although Dr. Cline was the overall project director, Dr. Sydelle Stone Shapiro was in charge of the COP evaluation. Her dedication to the task made this extensive evaluation project as successful as it was.

Members of the COP field staff included:

Wendy Peter Abt
Joseph Beckmann
John Butenas
Kenneth Carlson
Patricia Cook
John Doucette
Linda Hailey
Ricardo Millett
Roger Milnes
Denise Sadigur
Lorrie Stuart
Joyce Studen
Laura Studen

Ms. Laura Studen was field coordinator. Ms. Patricia Cook wrote the COP field manual.

The extensive computer programming and analysis activities for this project were conducted by Kenneth Carlson. Principal authors of Volume IV were Dr. Shapiro, Mr. Carlson and John Doucette.

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Mr. J. Paul Taylor
Las Cruces School District #2
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Mr. Richard Wieczorek
Lafayette, Georgia

Mr. Joseph Williams
Duval County School Board
Jacksonville, Florida

Mr. Amos Wright
Jackson Municipal Separate School District
Jackson, Mississippi

Special mention is due Mr. John D. Lyons. Mr. Lyons was the original project director, serving until January, 1972 (when he was replaced by Dr. Cline). He is responsible for the way the study took shape, setting the foundations for later efforts.

Dr. Walter Stellwagen, of Abt Associates' corporate Research Design Group, reviewed to the technical aspects of the project.

Finally, the secretarial staff of the project must be mentioned. In the 18 months of the project, there have been four project secretaries for the case studies: Ms. Denise Sadigur, Ms. Carol Folatko, Ms. Andrea Kovacs and, presently, Ms. Jane Allison. Ms. Anne Whitney has been secretary to the COP evaluation since its beginning.

Marvin G. Cline
Cambridge, Mass.
2 January, 1973

APPENDIX

VOLUME V

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INTRODUCTION

This report on the impact of the Career Opportunities Program (COP) is divided into two sections, Volumes IV and V of the total Innovation and Change report. Volume IV contains the summarized results of the research efforts supported by this contract. The Appendix (Volume V) describes in detail the methodology of the study, including operational procedures, instruments and field procedures.

I. OVERVIEW

In June, 1971, the Office of Education, through its Office of Planning, Budgeting and Evaluation (OPBE) contracted with Abt Associates Inc. to conduct an impact evaluation of the National Center for the Improvement of Educational Systems (NCIES), formerly known as the Bureau of Educational Personnel Development (BEPD). The study, evolving from discussions between the contractor and the Office of Education, was composed of two sections--a series of project case studies and an analytic survey of the impact of the Career Opportunities Program (COP). The present report addresses the survey of the impacts of the Career Opportunities Program.

1.0 The Career Opportunities Program

The Career Opportunities Program is unique among federally-funded teacher training programs. Since its first year of operation in 1969, it has endeavored to both provide a means of teacher training for many people who would not otherwise have entered the profession, and at the same time provide some benefit to the local school systems participating in this training process. COP's target population is, broadly stated, the disadvantaged; low-income people, minorities, welfare mothers, veterans, parolees and other types of "high risk" individuals who would not normally seek employment in education. In addition, the schools in which participants are placed in practicum situations are generally low-income schools, Title I schools, schools with high enrollments of minority children and so on.

The training procedures typical of COP projects differ from the traditional methods of teacher education in that they include (as a condition of the grant) extensive practicum experience for the participants throughout their entire college career. COP participants are employed as paraprofessionals ("teacher aides") in the classrooms for a significant part of the day (usually averaging around thirty hours a week) and also

attend college courses leading to a Bachelor's degree in education and teaching certification. This practicum experience serves many purposes. As employment, it serves to supplement the income of the participants who receive only tuition from project funds. In many cases, these earnings represent an aide's total income. Of course, the practicum activity in the classroom provides valuable interaction with children that can only make COP participants better teachers. And finally, a well-trained paraprofessional in the classroom serves the school by lightening the burden of regular teachers and thereby improving the quality of education for the students.

To summarize then, this program, which was nationally implemented in 1969, is unique in that it enables participants to be paraprofessionals (teacher aides) and go to college at the same time. It is expected that the opportunity to go to college will permit many of the participants to become full professionals in the teaching field. Since the program is targeted to lower income participants and ethnic minorities, the hope is that this program will act as a vehicle for upward mobility.

Since the COP aides are studying to become teachers and since they have been picked to reflect the ethnic background of the children they work with, it is further hoped that a beneficial impact on children can be shown.

Finally, the COP presence on campuses, in classrooms and school systems in the state might be expected to exert some changes on these institutions.

In the light of the above expectations, a study was designed which consisted of a survey of respondents including a two-wave study of selected behaviors of COP aides (i.e., in the Fall of 1971, Spring of 1972). The purposes of this pre/post procedure were to investigate the changes which occurred in the aides over time.

2.0 Outline of the Study

Based on the above goals of COP, we developed several very general areas of interest. We may summarize our study efforts and concerns in the following very general hypotheses, stated positively:

1. COP has been effective in enhancing the career potentials of its participants.

2. COP has been an effective tool in improving the educational experiences of students in the classroom.

3. COP has engendered change in institutional structures.

In order to investigate these hypotheses, several respondent groups were identified and surveyed. Wherever necessary, specialized instruments (questionnaires) were developed for each of the respondent groups. These groups were:

- COP aides
- Students in classrooms with COP aides (and an associated comparison group)
- Teachers of classrooms with COP aides (and an associated comparison group)
- Principals of participating schools
- Superintendents of participating LEA's (Local Education Agencies)
- Administrators of participating IHE's (Institutions of Higher Education)
- Project Directors
- Certification Officers of the 50 State Education Agencies

2.1 COP Aides

A primary goal of COP is to enhance the career potential of its participants. This is done in several ways. The primary intention of the program is to train teachers, and this

training, which may lead to a college degree, is invaluable to the employment potential of participants. But even if a participant does not complete the program and leaves before completion of the 4-year degree requirements, he may have earned an Associates degree and will in any case have had much valuable experience and training as a paraprofessional.

In addressing the program's impact on these participants we were interested in the effects of their training on their grasp of basic skills, as well as on their career aspirations. Basic skill level was evaluated by two subtests of the Adult Basic Learning Examination (ABLE).* The ABLE was used at the request of the client as a culture fair test appropriate for the aides. Career aspirations were addressed by sections of a questionnaire administered to participants. These measures were taken in both the Fall and Spring survey. In addition, the Fall questionnaire collected demographic information while the Spring questionnaire elicited attitudes and opinions of COP aides toward their experiences in the program.

2.2 Students

Impact on students was measured by achievement test scores and student opinions about school, self, and others. Standardized achievement test scores (reading and math subtests) supplied by the sampled sites were obtained for students (grades I-VI) with COP aides and comparison students who did not have COP aides. The question of interest here was whether children in classes with COP aides perform better on standardized tests than similar students who did not have COP aides. In one sampled site where achievement testing was not scheduled in the Spring, the evaluator administered the Cooperative Primary Tests (for grades I-III) and the California Test of Basic Skills (for grades IV-VI), reading and mathematics subtests.

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* Adult Basic Learning Examination (ABLE), Mathematics and Reading Subtests, Harcourt, Brace and World, Inc. 757 Third Avenue, New York, New York.

It is generally agreed that achievement gains are difficult to measure. Furthermore, academic achievement alone has never been the total goal of public education. Hopefully, schools help children achieve a strong and positive sense of self, others and school. These opinions cannot be measured in an achievement test. In order to assess opinions about self, others and school among students in grades I-VI, an instrument was developed called the "Student Opinionnaire." It was administered to all students in the sample and comparison classes to probe for differences in attitudes toward school, self and others between children who have a COP aide in their classroom and those who do not.

2.3 Institutions

Institutional impacts were measured by exploring changes in classroom, elementary schools, local education agency (LEA) standards, institutions of higher education (IHE) courses and degree requirements and State professional certification requirements as described below:

- Teachers in the student sample classes were asked to respond to a questionnaire which was designed to elicit information on instructional scheduling, extra-classroom school-related activities, attitudes towards the Career Opportunities Program and selected demographic variables. Of prime interest is the relationship between presence of a COP aide and the amount of instructional and extra-classroom school-related activities reported.

- Principals who have COP aides in their schools were asked to give their opinion on the impact of COP aides, both on classroom activities and classroom structure.

- Superintendents of districts with COP aides were queried to obtain data on changes in district employment policies, the nature of the district's career lattice (if any) and the history of upward mobility within the school system. In addition, attitudes toward COP aides were assessed.

- College Administrators received an instrument that explored the relationships between the presence of the COP project and changes in courses, admissions procedures, and degree requirements.

- Project Directors were administered a brief instrument to obtain information on recruitment procedures, community interest in services of COP aides, function and structure of advisory councils and some factual information for validation purposes.

- The impact of COP on a specific institution, the State Education Agency (SEA), was assessed by surveying the 50 state certification officers. They were asked the nature of recently instituted or planned changes in state certification requirements and if these reflected a concern for the needs of COP.

3.0 Selecting the Respondents: Sampling Procedures Used and their Implications for the 16 Site Survey

COP Aides: The evaluation and the impact of the COP experience on the teacher aides involved as participants was assessed through instruments administered to 480 aides in 16 COP sites throughout the country. Selection of the participants required a two-stage sampling.

Initially, 16 sites were selected from the 90 COP projects funded in FY 1972. The great majority of COP projects have between 30 and 200 participants each. The exceptions are either so large as to swamp the analysis or so small as to have no appreciable effect on the results; we therefore restricted the survey to projects within this size range.

The 16 sites were selected at random from the 90 sites with the probability of selection proportional to project size as measured by number of participants. Within each of the 16 sampled sites, 40 participants were chosen, 20* in their first year in COP and 20* in their second, for a total effective participant sample of 480. Selection was made by simple random sampling.

Students: Due to constraints of time and budget, as well as the somewhat lower priority assigned to this aspect of the evaluation relative to the other sections, the student sample is somewhat less precise than those for participants or institutions. This sampling plan was developed in consultation with representatives of the Office of Education, OPBE.

The student sampling was a multi-stage sample, selecting COP project sites at the first stage and classrooms with aides at the second. Intact classroom units were used; that is, all students in a selected classroom are therefore included in the sample. The first five sites selected in the 16 site sampling constituted the first stage of the student sample. Within each of these sites, a stratified sample of classrooms containing COP aides were selected. Two classes from grades I-VI were chosen for a total of 12 classrooms per site or 60 over the five sites.

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* To allow for expected attrition, 40 names were selected from each site with the expectation of analyzing data on 30.

We may fruitfully conceptualize the student testing part of the study as an experiment in which there are groups which receive different treatments. This is a classic analysis of variance design, i.e., a nested group within treatment design.
Our design may be characterized as a mixed-mode design with subjects nested within classes nested within methods:

> "We begin by conceptualizing treatment population, differing systematically only with respect to the level of treatment variable, A. From each population, subjects are randomly selected in groups of size n; the sampling process ends when g groups of n subjects have been sampled from each population."*

In this model, the total variability among subjects is composed of three sources:

- Treatment Effects: COP aide/no COP aide
- Group Effects: grade/class
- Residual Individual Effects: attitude/ability

The paradigm below defines the design where,

A_1^2 = Treatments (fixed variable)

A_1 = COP aide in class

A_2 = No COP aide in class

G_1^{60} = Groups (random variable)

Classes chosen within constraint of two from each grade/site

N_1^{30} = Subjects

Students within each classroom

---

* Myers, J.L., Fundamentals of Experimental Design, Allyn and Bacon, 1966, p. 213.

A_1				A_2			
G_1	G_2	.....	G_{60}	G_1	G_2	.....	G_{60}
N_1	N_1		N_1	N_1	N_1		N_1
N_2	N_2		N_2	N_2	N_2		N_2
.	.		.	.	.		.
.	.		.	.	.		.
N_{30}	N_{30}		N_{30}	N_{30}	N_{30}		N_{30}

The sources of variance and degrees of freedom are described in the table below:

Analysis of Variance for Groups-within-treatments Design

SV	df	df
Total	agn-1	3599
Between G	ag-1	119
A	a-1	1
G/A	a(g-1)	118
S/G/A	ag(n-1)	3480

The sample frame was developed in conjunction with the Project Director of each site and, usually, an LEA representative. He identified all classrooms in his site that had COP aides in them. From this list a sample of 12 classrooms, two each from each of the first six grades, for a total of 60 classrooms was selected.

A sample of comparison students was also drawn from each of these LEA's. A frame consisting of classrooms of grades I-VI without aides in schools that, in the opinion of the evaluation staff of the particular LEA, are comparable to COP schools in socio-economic status characteristics was developed.

Institutional Respondents: The sample of teachers was selected at the same time as the sample of classrooms. Each classroom unit selected had a teacher associated with it. The teachers from the classrooms selected above constitute the teacher sample. Precision of generalizations will be the same as for

the classrooms. Contact will be established in the same manner as for classrooms. A comparison group of teachers was drawn from the comparison classrooms in the same way.

The selection of 16 COP project sites as the first stage of the participant sample determined the sample of Principals of participating schools, Superintendents of participating LEA's, IHE Administrators, and COP Project Directors. All of these individuals in the 16 sites already selected were included in our survey. In cases where there was more than one individual of a given type (as when there are several participating IHE's), we include representation from all of the appropriate institutions. Generalizations from data so gathered to the restricted universe of 90 COP projects have the same precision as the first stage of the participant sample. Selection of all possible respondents at a selected site (100% subsampling) adds no additional error to the estimate.

The SEA survey represented a census in that 100% sampling was employed.

The Three-Site Survey

On September 29, 1971, at the request of the client, three additional sites were added to the survey in order to gain data from sites with more than 200 participants. These sites had been excluded from the original sample frame. The three sites were Chicago, Illinois; Detroit, Michigan; and Bedford-Stuyvesant (Brooklyn), New York. Since these sites were selected judgmentally and not in a probabilistic manner, we could not discuss precision of generalizations if the data from these sites were combined with the data from the other 16 sites. Consequently, while the participants were administered the same instruments as the main sample, their data was tabulated and will be discussed separately. Students and teachers from these sites were not included in the survey. Findings for the three-site survey are described in the Appendix to this volume.

II. HIGHLIGHTS OF FINDINGS

1.0 COP Aides

The COP Project Director's Handbook describes how participants in the program should be selected. Preference should be given to:

a. (Primarily) low-income people
b. Ethnic mix that reflects the community served
c. Veterans
d. People at the high school or equivalent levels
e. Students participating in Youth-Tutoring-Youth
f. Males
g. High risk potential

Don Davies, former Director of NCIES, described the COP program as follows:

> "It offers a chance to bring into the schools persons from low-income areas who would not normally enter college, and who normally would not consider teaching as a career."

WHO ARE THE COP AIDES?

Overall, our survey shows that COP aides tend to be:

- from families whose present total yearly income is under $6000 (51%)
- drawn from ethnic minority groups (68%)
- female (74%)*
- young (69% are under 35 years)
- high school graduates or more (93%)
- drawn from other aide programs (46%)
- presently living in the community where they are an aide (53%)

However, when we separate out first and second year participants in the program, a number of significant shifts are evidenced.

---

* While only 26% of the total sample are males, almost one-third of these (30%) are veterans.

Table I presents distributions of pertinent demographics for the total sample of COP aides. As compared with participants who have been COP aides for two years, the newer recruits (first year COP aides) show shifts towards:

- more males (from 18% to 39%)
- better educated (from 42% to 54% have had some college training before entering COP
- less minority ethnic representation (from 72% to 62%)
- younger (from 45% to 68% are under 30 years)

While the increase in males is to be applauded, the reduction in minority representation and the increase in prior college training may be viewed with some concern. Does this shift follow some self-selection principle or does it reflect a shift in recruitment policies at the local level?

One LEA administrator summarized a prevalent attitude when he said, "The time has come to shift the emphasis in teacher education from quantity to quality," by which he meant that COP's recruiting policy in its first year was perceived as favoring "high risk" participants and that future participants should look more like the traditional teacher.

Alternatively, there is some data to suggest that the supply of readily available high risk candidates was significantly depleted in the first year's recruiting.

- 58% of the second year participants were teacher aides before they joined COP, as compared with 41% of the first year.

- 44% of the first year participants first heard of COP from a friend (and hence can be considered essentially self-selected), while only 30% of second year students followed this path.

It would appear that recruitment may have been more active at the beginning of the COP program than more recently. 39% of the second year aides heard of COP via the LEA or a

TABLE I

SELECTED DEMOGRAPHICS OF COP AIDES
FOR TOTAL SAMPLE, FIRST YEAR, AND SECOND YEAR AIDES

	Total COP Aides	COP Year First	COP Year Second
	(540)	(213)	(323)
	%	%	%
Sex			
Male	26	39	18
Female	74	61	82
Education Completed			
Grades 4-6	1	0	1
Grades 7-8	0*	0	1
Grades 9-11	6	5	7
Grade 12	46	41	49
Some College or more	47	54	42
Age			
Under 20	6	7	6
20-24	28	38	21
25-29	20	23	18
30-34	15	12	18
35-39	13	8	16
40+	18	13	22

*less than .5%

	Total COP Aides	COP Year First	COP Year Second
	(540)	(213)	(323)
	%	%	%
Ethnic Identification			
American Indian	6	6	6
Black	45	40	49
Oriental	1	3	0
Mexican	13	8	16
Puerto Rican	2	1	1
Other Spanish	1	2	0
Other white	31	36	27
Other	1	2	1
Income	(435)**	(161)**	(275)**
Under $1000	2	2	2
$1000 to 1999	4	6	3
$2000 to 3999	22	24	21
$4000 to 5999	23	23	23
$6000 to 7999	14	17	13
$8000 to 9999	12	11	12
$10000 to 11999	11	6	13
$12000 and over	7	7	7
No response	5	4	6

* Change in base represents attrition between Fall and Spring. Income question asked in Spring.

government program as compared with 23% of the first year aides. It is a tribute to the success of COP that it became well known enough to reduce the necessity of very active recruiting; however, high risk candidates usually require outreach methods to bring them in.

In order to tease out possible explanations for the shift in profile between second and first year COP participants, Project Directors were questioned about their recruitment practices. Eight Project Directors indicated that they had changed their recruitment practices in the second year. When asked to specify what these changes were (open ended question) their responses were of three kinds:

1. Termination of active recruitment
2. Selection of only the "best" candidates
3. Selection of candidates by advisory council

The Project Directors were also asked the following open-ended question:

"What are your present recruitment procedures for COP aides?"

The eight statements below are responses to this question by the eight directors who subsequently indicated (in a later question) that their recruitment policies had changed.

1. "None necessary anymore--excellent applicants waiting in line for attrition to occur. Word of mouth at project schools is all, now."

2. "We now only work toward replacement of withdrawal vacancies looking for the best possible participant prospects."

3. "Much more sophisticated. Much more valid (opinion). More time."

4. "Veterans first priority. Aides with previous college credits due to phase-out COP by 1975." (They are)"screened by entire advisory committee and by committee of three."

5. "Filling vacancies only. No recruitment. Applications--testing--interview."

6. Application--Interview--Advisory Committee selection.

7. "This year used field staff and tribal councils.

8. "YTY (Youth Tutoring Youth) experience for new bi-lingual aides earlier identification of YTY candidates."

WHAT ARE THE CAREER PLANS OF COP AIDES?

The aides were asked what career plans they had for the next year and the next three years. The questions were closed ended; that is, a list of alternatives were presented and the aide checked the answer or answers closest to his or her career plans. A fill-in space was provided if none of the options were appropriate. To measure degree of indecision, respondents were informed that they could check more than one box. Thus, multiple responses can be viewed as an index of indecision regarding future career plans.

The major findings on career plans for COP aides follow:

- There is very little indecision on career plans for the next year, i.e., 15%. When plans are for the next three years, indecision increases to 30%.

- Most (89%) intend to continue in the COP program next year.

- More than half (59%) plan to become teachers within the next three years.

- Surprisingly, 46% plan to be in the program three years from now. This includes 40% for whom this is the second year in COP. Since a goal of COP is to encourage attainment of a college degree, this suggests either that the participants misunderstood the question or they are not properly informed as to their responsibilities and priviledges in the Career Opportunities Program.

The percentages quoted above were taken from responses to the Fall survey. In the Spring survey, responses were virtually the same. Percentages varied by no more than one or two points; there were no significant differences in the group response in the spring compared with those of the fall.

To explore the impact of COP on their employment plans, aides were asked the following open-ended question: "What do you think you would be doing this year if COP did not exist?" Multiple responses were permitted and a code was developed to reflect the variety of responses made. The most frequent response, made by 21% of the total aides, was that they would work in a classroom as a teacher or other education professional or paraprofessional. When, however, the aides are separated into male and female, there is a significant difference* in the response; that is, the distribution is as follows:

Males	5%
Females	26%

Furthermore, 25% of the males as compared with 15% of the females indicated a possibility of working in a non-teaching field.

On the other hand, more males than females stated that they would become students (27% vs. 15%) or would combine school and work (25% vs. 10%).

What seems likely is that if COP were discontinued there would be a significant reduction in male teacher aides. Given the importance of a male presence in the classroom not only to help low-income males, but more importantly to act as role models for the children, such an eventuality would be most unfortunate.

WHAT PERFORMANCE DIFFERENCES ARE THERE BETWEEN MALE AND FEMALE COP AIDES?

The male COP aide appears to be more actively pursuing the career goals implicit in COP than the female aide. This is evidenced as follows:

Compared with the female, the male COP aide:

- Takes more college courses and spends more hours in college classes
- Spends more time on college work doing homework and/or reading for courses
- Scores higher on both reading and math sections of the ABLE test
- Attends more neighborhood activities
- Is more likely to rate himself "Better" than most other aides on a variety of teaching performance/ competence measures.

Tables II and III which follow present data on these selected measures.

TABLE II

COMPARISON OF MALE AND FEMALE COP AIDES ON SELECTED MEASURES

	TOTAL (435)* %	MALE (104)* %	FEMALE (331)* %
Number of university courses presently taking			
1-4	55	20	65
5 or more	30	57	22
no answer	15	23	13
Number of hours a week spent attending college classes			
less than 12	68	35	79
12 or more	30	65	18
no answer	2	0	3
Number of hours a week spent doing homework or reading for college courses			
less than 12	65	48	71
12 or more	32	51	25
no answer	3	1	4
Scores on ABLE Reading Test**(Spring)			
Less than 42	51	31	57
42 or more	49	69	43
Scores on ABLE Math Test**(Spring)			
Less than 30	70	46	78
30 or more	30	54	22
Number of school neighborhood activities attended			
1-2	19	24	17
more than 2	27	32	26
none or no answer	54	44	57

* Weighted Bases

* ABLE Reading Test has maximum score of 60

ABLE Math Test has maximum score of 42

TABLE III

DIFFERENCES BETWEEN MALE AND FEMALE PERFORMANCE SELF-RATINGS "AS COMPARED WITH MOST OTHER AIDES"

	TOTAL (433) %	Male (104) %		FEMALE (331) %
Percentage rating self as "Better than most other aides" on:				
knowledge of subject matter	21	33	>*	17
presenting lessons to class	23	33	>*	20
getting ideas across	25	40	>*	20
getting along with parents	27	22	<	28
understanding needs of neighborhood children	31	35	>	30
getting along with children	41	54	>*	37
ability to instruct children individually	31	49	>*	25
ability to tutor	25	39	>*	21
ability to instruct children in small groups	27	31	>	25
lesson planning	20	23	>	19
college performance	20	24	>	19

* Differences are significant at $p < .01$.

WHAT IS THE COP EXPERIENCE?

How do COP aides feel about their experiences in the program?

When asked to select among five measures ranging from very unsatisfying to very satisfying, 97% stated that they found the experience as somewhat or very satisfying ("Very satisfying," accounted for 68%). This is a very strong vote of confidence in the program!

In order to explore attitudes further, we asked two open-ended questions. They were as follows:

"What is it about the program you like the most?" and

"What is it about the program you like the least?"

Such open-ended questions frequently reveal attitudes that a closed ended question would be unable to elicit. The results indicate a very strong, positive attitude towards the program.

First, the number of responses to "like the most" was much greater than those to "like the least" i.e., 623 vs. 323 (this latter figure does not include 85 responses which stated they had no complaints).

Secondly, while the first question had only a 3% non-response rate, the second had 17%.

Finally, while there was no single complaint that was made by more than 9% of the respondents; by contrast there was strong agreement by respondents on what they liked the most, i.e., the opportunity for an education (61%).

The four most frequently cited items in each category were as follows:

"Like the most"	"Like the least"
Chance to get an education (61%)	no complaints (20%)
on the job training (23%)	not enough money (9%)
financial assistance (19%)	schedule too full (9%)
giving service (11%)	time classes are held (7%)
	communication problems with the administration (7%)

The opportunity for an education is, of course, a heavy component of the COP program. Its importance is reflected in the aides citing the "opportunity to get an education" as what they most like about COP. What are the components of this educational experience? In general, courses are required rather than chosen by the aides.

The majority of COP aides

- Take 3-5 courses a semester (63%)
- Spend less than eleven hours a week on homework or reading for courses (65%)
- Rate their courses as "about right for me" (90%)

HOW DO COP AIDES FEEL ABOUT THEMSELVES AS PROFESSIONALS?

In order to assess the professional self-image of the COP aides we asked them three questions. We asked them to rate themselves on specified performances as compared to other aides; we asked them to rate themselves on specified performances compared with their supervising teacher; and finally, we asked them to rate the frequency of finding it a problem to carry out specified activities. The results of these appear in Tables IV and V which follow.

TABLE IV

RATING OF COP AIDES ON THEIR PERFORMANCE "COMPARED WITH MOST OTHER AIDES" AND "COMPARED WITH SUPERVISING TEACHER" (among Total COP aides: N=435*)

Percentage Rating of Self on:	"Compared with most other aides"				"Compared with Supervising teacher"			
	Better %	About the same %	Not as good %	No answer %	Better %	About the same %	Not as good %	No answer %
Knowledge of subject matter	21	72	1	6	4	43	45	8
Presenting lessons to class	23	64	6	7	5	45	42	8
Getting ideas across	25	65	4	6	7	63	20	10
Getting along with parents	27	64	--	9	22	58	8	12
Understanding the needs of children of this neighborhood	32	60	2	6	34	49	10	7
Ability to instruct children individually	31	62	1	6	11	66	14	9
Ability to tutor	25	65	3	7	7	61	22	10
Ability to instruct children in small groups	27	67	--	6	7	69	14	10
Lesson planning	20	64	7	9	4	36	50	10

* Weighted

TABLE V

FREQUENCY OF FINDING ACTIVITY A PROBLEM AMONG TOTAL COP AIDES

(N=435*)

Activity	Very freq. %	fre-quent %	occa-sionally %	sel-dom %	very seldom %	no answer %
Giving a class lesson	2	2	10	33	43	10
Getting children to work with me	2	2	7	29	52	8
Getting along with supervising teacher	3	2	5	13	67	10
Maintaining discipline in class	3	7	34	25	22	9
Getting children to like me	2	--	5	19	65	9

* Weighted

COP aides appear to have a good professional self-image. This is evidenced in several ways.

First, few describe frequent problems in any of the activity areas listed. The only one that is seen as an occasional problem by a fair percentage is maintaining discipline in class (44% see this as a problem occasionally or more frequently.)

Second, they perceive their performance as at least as good or better than most other aides. This very positive self image is somewhat tempered when the aides compare themselves with teachers, but even here, with the exception of "lesson planning" and "knowledge of subject matter" the majority of aides see themselves as at least "about the same" as their supervising teacher.

It is instructive to note that 34% of the aides perceive themselves as better than their teachers in "understanding the needs of children of this neighborhood." Prior to conducting the impact study and also during several site visits, teachers we spoke to frequently mentioned how helpful the aides are in explaining the children and their special customs and needs to them. The teachers as a rule do not live in the neighborhood of the children; they therefore cannot be as aware of the current status of the child. As an example, a teacher in the Worchester, Massachusetts COP program (which we visited for orientation to the program) stated that her COP aide was invaluable because, among other things, she can warn her in advance when one of the children has had a family crisis so that if the child seems distracted or ornery, the teacher will recognize the cause and not misunderstand the child's motives. This teacher also stated that she never knew until her aide explained it to her that certain children greatly dislike being patted on the head. The teacher replaced this gesture of affection with one that was more appropriate for these children.

In bilingual classes, the teacher rarely can speak any language but English; the bilingual aide is indispensable here

in being able to communicate with children who have an English language problem. This is particularly so in the primary grades where so many attitudes towards school and learning become fixed.

In consideration of this, the 34% who see themselves as better than their supervising teacher in this area are paralleling the teacher's perceptions as described above. These impressions were subsequently confirmed by the results of the teacher's survey. The teacher sample was selected from the five sites which included student testing and is therefore more limited than the COP aide sample. However, it was chosen independently of the aides and can be viewed as a validating sample for these impressions of COP performance. Table VI describes the ratings given by teachers with COP aides on performance measures. When comparing their aides with an average teacher, 53% of the thirty teachers sampled saw their aides as better than the average teacher in "understanding the needs of neighborhood children."

TABLE VI

RATING OF COP AIDES ON THEIR PERFORMANCE "COMPARED WITH MOST OTHER AIDES" AND "COMPARED WITH AN AVERAGE TEACHER" (Among Teachers with COP aides: N=30)

PERFORMANCE RATED	"Compared with most other aides"				"Compared with an Average Teacher"			
	Better %	About the same %	Not as good %	No answer %	Better %	About the same %	Not as good %	No Answer %
Knowledge of subject matter	57	30	13	0	10	37	53	0
Presenting lessons to class	60	24	13	3	13	37	50	0
Getting ideas across	57	27	13	3	13	47	40	0
Understanding the needs of neighborhood children	64	33	3	0	53	37	7	3
Getting along with parents					43	37	13	7
Ability to instruct children individually	57	33	7	3	23	50	27	0
Ability to tutor	64	30	3	3	23	47	30	0
Ability to instruct children in small groups	60	33	7	0	17	43	37	3
Lesson Planning	50	37	10	3	13	30	50	7

DO COP AIDES IMPROVE IN TESTS OF BASIC SKILLS DURING THEIR COLLEGE TRAINING?

The Adult Basic Learning Examination was given to the sample of first and second year COP aides in the Fall of 1971 (Level III, Form A) and the Spring of 1972 (Level III, Form B). Although national norms do not yet exist for these tests, they were selected at the request of the client since they came closer to a culture free test for adults than other more traditional tests.

Our research interest focused on differences in performance between COP aides who had been in the program for one year compared with those who had been in the program for two years. We expected to find a significant difference favoring second year aides in the fall testing, and a reduction of this difference in the spring testing.

The findings did not support the expectations. Indeed, there was a difference in performance between first and second year aides, but in a direction opposite from that expected; i.e., first year aides scored consistently higher than second year aides.

The table below describes these findings.

TABLE VII

MEANS AND STANDARD DEVIATIONS OF FALL AND SPRING ABLE TEST SCORES FOR READING AND MATH AMONG FIRST AND SECOND YEAR COP AIDES

	Reading				Math			
	Fall		Spring		Fall		Spring	
COP Year	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
First	43.6 (N=159)	10.4	41.7 (N=160)	10.2	25.8 (N=160)	7.7	26.3 (N=160)	8.1
Second	40.8 (N=240)	9.6	39.8 (N=239)	9.2	23.9 (N=239)	7.7	24.3 (N=239)	7.7

As has been documented in previous sections, there are major differences in the demographic characteristics of participants in the two groups. These differences are in areas frequently suspected of being related to achievement on standardized tests.

The relationship between subjects' scores on the fall and spring tests was very high. Fall and spring scores for reading achieved a correlation of .813; the correlation for fall and spring math scores was .797. However, in order to investigate the effects of various demographic variables on the performance of COP aides, a multiple regression analysis was performed, which incorporated both selected demographics and fall test scores as independent variables. This allowed us to investigate the contribution of each variable independent of all the others, statistically controlling for their effects. Spring reading and math scores were dependent variables predicted by the following independent variables:

- Fall test score (of the same subject
- Year in program
- Sex
- Race (a dichotomy: white vs. nonwhite)
- Previous education (dichotomized to: less than high school diploma vs. diploma or more)
- Linguistic status (Dichotomized to: those who are native English speakers vs. those whose native language is something else)

The analysis was conducted following the procedures suggested by Cohen, which are described elsewhere in this report. Full sets of data on all variables were available for 397 participants.

Slightly different results were obtained for Reading and Mathematics. In Reading, a multiple correlation of .81726 was obtained using all the above variables. For Mathematics, this value was .80674. This indicates that, respectively,

approximately 67% and 65% of the variance in the spring test scores could be explained by variance in the set of predictor variables. In both cases, the most important predictor was the fall testing result.

One further analysis was performed to explore the contribution of each of the five independent variables controlling for the fall test scores, i.e., fall test scores act as covariates. What is of interest is to observe if, when all other significant factors are partialed out, year in the program accounts for any difference in performance.

The following table presents the results of testing the significance of the independent contribution of each of the five independent variables.

TABLE VIII[1]

	Reading			Math		
	ΔR^2	F	B	ΔR^2	F	B
Year	.00028	.32798	.01734	.00001	.01114	-.00327
Sex	.00417	4.87161*	-.06990	.01338	14.90669**	-.12482
Race	.00156	1.82743	.04688	.00126	1.40377	.04371
Educ.	.00061	.71454	-.02520	.00018	.20054	.01362
Lang.	.00003	.03514	-.00620	.00002	.02228	.00520

*Pr. .05
**Pr. .001

The two most important variables are sex and race, effects which have been noted for many years. The direction of the regression weight indicates that men score higher than women on both tests. It is interesting to note that the importance of a participant's race is not statistically significant, although it is in the expected direction. The effect of the participant's year in the program, independent of his sex, race, previous education and linguistic history, is virtually zero.

[1] ΔR^2 is the change in the multiple correlation resulting when the indicated variable is dropped from the regression equation. F is the F-ratio, with [1,389] degrees of freedom, resulting from the significance test of this change in R^2, and B is the standardized regression coefficient taken from the regression equation for the indicated variables.

WHAT DIFFERENCES ARE THERE BETWEEN COP AIDES WHO PERFORM WELL OR POORLY ON THE ABLE?

When the ABLE was given in the fall, we expected to find differences between first and second year COP aides. We reasoned that participants who had already had a year of college in the program would perform better than those who were just beginning. We based this prediction on the assumption that there would be no significant demographic differences between first and second year COP participants. As already described above, this assumption proved false; first and second year COP aides have very different profiles with the more recent recruits having characteristics that would favor better performance and therefore swamp any differences which might have occurred between first and second year aides. When the demographic differences were controlled for, no differences between performance of first and second year COP aides could be observed.

Are there any distinguishing characteristics of aides who perform particularly well or poorly on the ABLE? That is, within the group as a whole, are there characteristics which differentiate performance?

We know that the relative ranks of performers did not appreciably change since fall testing. Because of this stability we used the fall ABLE results to explore differentiating characteristics between high and low scorers on the ABLE. Table IX delineates our findings.

TABLE IX

Selected Characteristics Differentiating High And Low Scorers on the ABLE Reading and Math Subtests.*

Fall Test Results

	Total Sample (540)** %	ABLE Reading Quartile Lowest (146) %	ABLE Reading Quartile Highest (139) %	ABLE Math Quartile Lowest (133) %	ABLE Math Quartile Highest (144) %
SEX					
Males	26	13	45	13	39
Females	74	87	55	87	61
EDUCATION					
Less than college	53	58	34	63	39
Some college or more	47	42	66	37	61
ETHNICITY					
Minority	69	93	43	94	40
Other	31	7	57	6	60
AGE					
Under 24	34	24	45	21	41
25 or older	66	76	55	79	59
YEAR IN PROGRAM					
First	40	34***	51	31***	44
Second	60	64	49	67	56

* $p \leq .01$

** Weighted bases

*** Sums to less than 100% to reflect three nonrespondents on Question 2, "Is this your first or second year in the COP program?"

A further analysis was performed on ABLE scores controlling for effect of education among ethnic groups. The results do not show any reduction of differences as reported in the preceding table.

These data must be interpreted with caution. While it is dangerous to go beyond the data, a number of issues leap to mind. These are issues whose relevance to the data and to COP cannot be denied:

- Are achievement tests appropriate to this evaluation or would performance based criteria be more useful?
- Is the ABLE or any test culture free?
- Minority groups are considered to be test weary; are they test wise? (25% of the aides scored <u>below</u> chance on the math section of the ABLE suggesting that they did not guess, i.e., may have left answers blank.)
- Is there a differential amount of test anxiety for the two groups?
- What differences in quality of education exist between the earlier educational experiences of the two groups?

These are not questions easily answered by either this study or the present state of knowledge about achievement testing. Until they are, ethnic differences as we have found cannot be interpreted.

In the Spring survey of COP aides, an alternate form of the ABLE tests was given again. There were few shifts in ranks of the aides from those that they had fallen into in the Fall. For example, 70% of those who scored in the highest quarter in the math subset remained in that quarter for the Spring. The remainder of them drifted down as would be expected due to regression towards the mean, but only one quarter so that 97% remained in the upper half. The results in reading were virtually the same as for math, i.e., 71% and 93%.

The lowest quarter showed the same tendencies. In math 61% remained in the lowest quarter. What movement there was was restricted to the bottom half and essentially the same pattern was repeated in reading. In other words, there were no dramatic changes in the relative scores or rankings. Most people who scored at the high and low ends of the continuum remained in the upper or lower half of the distribution.

However, a further question remained. Is the score on the ABLE related to any of the performance/attitude measures we took in the Spring survey? To explore this, we compared performance/attitudes of COP aides who had scored in the highest quarter with performance/attitudes of those who had scored in the lowest quarter. We used the Fall ABLE to establish these groups.

One noticeable difference is the much higher proportion of non-responses among those who score in the low end of the scale on the ABLE. These went as high as 80% on one question. The proportion of non-response over all the questions was consistently higher among the low scorers as compared with the high scorers.

While the results must be interpreted with caution, it appears that the poorer performers on the ABLE test have difficulty with the college requirements as evidenced by the following?

- 12-14% report that they found the college courses "too difficult" as compared with 2-4% of the highest quartile.

- They devote less time to their college work (42-47% spend less than six hours per week attending classes as compared with 12-15% for highest quartile).

- They report fewer hours devoted to doing homework or reading for college courses, i.e., 51-53% report spending less than six hours a week on their work. Only 22% in the upper quartile report this.

2.0 Students

2.1 Student Achievement Testing Summary Findings

One goal of the Career Opportunities Program is the improvement of the learning experiences of children in classrooms served by COP aides. There are several possible indicators of the impact of COP aides; achievement test scores, attitude scale scores, and descriptions of the instructional processes of the teacher and aide in the classroom. All of the above measurements have been made in this study, although the present section is concerned only with the first--achievement test scores.

Measures of reading and mathematics achievement were to be collected of a sample of students who are enrolled in grades I-VI in classrooms having COP aides as well as from a comparison group. These students were selected randomly from within five of the sites involved in the participant survey. Procedurally, these five sites were the first five selected when the participant sample was drawn. Comparison classrooms from within the districts involved were identified by the districts themselves with the intention of making the classes maximally comparable.

Certain procedural constraints precluded Abt Associates staff from personally collecting these data in all cases but one. Consequently, the participating districts were asked to supply us with results of their regular testing procedures for the sampled students as well as with related demographic information. A covariate was also requested to allow at least partial statistical control for initial differences in test scores between the COP sample and their comparison group. Whenever possible, a previously administered reading or mathematics test was preferred. If such scores were not available, IQ scores were accepted.

The data were analyzed by means of multiple regression analysis. This multivariate procedure was selected because it does not have the stringent experimental design restrictions of classical analysis of variance, and for the ease in which

covariates (test scores, demographics, etc.) may be handled. A variance partitioning approach of the sort proposed by Cohen (1968)* was adopted. This procedure tests the increment in R^2, the squared multiple correlation obtained from the predictor variables, that can be had by introducing another variable into the prediction system. In this case, that variable was whether or not the student had a COP aide in his classroom.

Table XI summarizes the results of a series of regression analyses. Due to the necessity of collecting data from the records of several school districts, the same set of variables was not available for all students. (See Table X which follows) Also, the different districts used different tests and often used non-comparable tests in different grades within the district. Consequently, we were compelled to compute a series of analyses to assess the effect of COP within each of the site-grade combinations.

* Jacob Cohen, "Multiple Regression as a General Data-Analytic System," Psychological Bulletin, 1968, Vol.LXX, No.VI, pp.426-443.

TABLE X

VARIABLES AVAILABLE FOR REGRESSION ANALYSIS

	San Diego			Hartford	Denver			Asheville					Stockton						
	1	2	3	2	4	5	6	1	2	3	4	5	1	2	3	4	5	6	GRADE
COMPARISON GROUP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	AIDE
																			NO AIDE
DEPENDENT VARIABLE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	READING
	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	MATH
COVARIATES	X	X	X										X	X	X	X	X	X	READING
	X	X											X	X	X	X	X	X	MATH
			X		X	X	X	X	X	X	X	X							IQ
STUDENT DEMOGRAPHICS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	AGE
	X	X	X	X				X	X	X	X	X	X	X	X	X	X	X	RACE
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEX
	X	X	X					X	X	X	X	X							FREE LUNCH
SCHOOL VARIABLES	X	X	X										X	X	X	X	X	X	INCOME RATE
	X	X	X										X	X	X	X	X	X	AFDC RATE
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	FREE LUNCH
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	TITLE I
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	TITLE VII
					X	X	X												OTHER
TEACHER VARIABLES								X	X	X	X	X	X	X	X	X	X	X	TEACHER VARIABLES

"X" indicates that the variable is available for that site/grade analysis.

It is possible to use nonparametric procedures to combine the results of these various tests. Binomial tests were applied to the regression coefficients obtained to determine if their true value is different from zero. The results obtained are shown in Table XI.

The overall result is that there is no statistically significant evidence that COP aides have had an effect on the achievement test scores of students in their classrooms. This is not to say that COP has had no effect on other aspects of the educational environment or on cognitive skills not measured by these tests or on affective aspects of the students. Indeed, the Student Opinionnaire instrument was constructed to explore affective responses of students. A summary of these findings follows.

TABLE XI

STUDENT ACHIEVEMENT TESTING SUMMARY TABLE

SITE	GRADE	N	READING*	B**	MATH*	B**
1	1	65	.844	-.251	9.494	-.538
	2	30	.003	-.025	.388	+.308
	3	42	.048	-.057	0	0
2	2	88	.001	+.039	.001	+.030
3	4	70	.921	-.265		
	5	76	.153	+.064		
4	1	63	.008	+.023	4.062	+.444
	2	67	1.601	+.276	1.472	+.253
	3	46	.066	-.071	1.126	-.256
	4	38	.159	-.093	.121	+.099
5	1	56	.015	-.030	.370	+.172
	2	65	.170	+.088	1.011	+.210
	3	44	1.096	-.243	1.393	-.253
	4	51	.246	-.095	.335	-.134
	5	76	.855	-.098	4.483	-.221
	6	68	.808	-.096	.433	-.068

* The entries in this column are F-statistics, results of testing the significance of ΔR^2 for COP.

** The entries in this column are the standardized regression coefficients for the COP variable.

2.2 Student Opinionnaire Instrument

Although generalized measures of attitudes are quite common, few attitude instruments appropriate for use in group testing of young children are generally available. Since a group administered test of affective impact of COP on students was desirable, we decided to develop an instrument for this purpose.

We could not adapt the typical adult attitude scale for several reasons. First and most important, these require a degree of verbal skill that cannot be expected of young children. Even if the standard instruments were read aloud to the students, they would not likely understand some of the words, and changes in the wording would alter the actual content of the scale. In addition, the response modes are complex. Rankings are clearly too difficult. Agree/disagree responses introduce an acquiescence effect. It is not unreasonable to assume that children tend to acquiescence and will therefore agree more than disagree, regardless of the content of the items. Further, commercially available scales are generally "trait measures" using a large number of items to measure a single underlying trait. Since we were interested in studying attitudes not as traits but as opinions, such scales were inappropriate.

If the items are designed to be administered by being read aloud and the language is intended to be understandable to young children, the initial objections can be overcome. Market researchers have used a type of Likert scale with children with some success. In it, the options on the scale are represented by a series of faces with expressions changing from smiling to frowning. It has been demonstrated that children are able to respond appropriately in this mode... Finally, savings in time can be made by using the opinionnaire method rather than the trait measure approach. For example, if we wish to know a student's attitude towards his teacher, we ask

him to mark the face most like his feelings toward the teacher. Marking a smile implies a positive attitude, marking a frown implies a negative one. Since this instrument will not be used for individual diagnostic purposes, such general measures have sufficient reliability if group rather than individual data is used. Following these techniques we developed an opinionnaire appropriate for use with children in grades I-VI. It required no reading on the part of the students, since it was administered verbally.

In order to explore differences in attitudes of students with/without COP aides, a test was developed which elicited responses on a pleasure/happiness scale for 15 different stimulus words. We reasoned that response to anchor words like "ice cream" should not change between classes with/without COP aides, but that responses to words like "teacher" might. We knew from pilot testing that there were differences in response as a function of grade. Therefore, while this factor was not of importance to this study it was included as a control variable.

All students for whom we had achievement test data were given the opinionnaire instrument and a 3x6 analysis of variance was performed on the results. To do this a separate analysis of variance was performed for each stimulus word with three levels of aide (COP aide, no aide, other aide) and six levels of grade (1-6). Table XII describes these results. On first looking at these results we were encouraged because our hypothesis seemed to hold up. That is, none of the anchor words (ice cream, mailman, going to bed, liver) had significant F's for the aide main effect whereas eight of the eleven critical stimuli showed significant F's for this aide main effect.

An inspection of the means of these significant stimuli, however, showed that there were no trends to these results. Thus, in some cases, the direction of the difference favored the

COP aided classes; in some it was reversed.

Therefore, we must conclude that the results on the Student Opinionnaire Instrument do not show significantly better attitudes among children in classes with COP aides than among those classes without COP aides.

TABLE XII

ANALYSIS OF VARIANCE FOR ITEMS OF THE STUDENT OPINIONNAIRE INSTRUMENT*

SCALE	AIDE	GRADE	INTERACTION
Ice Cream	0.602	3.653***	0.710
Mailman	1.958	5.651***	2.084**
Going to Bed	2.043	10.384***	4.671***
Playing Games	13.858***	0.340	3.623***
Yourself	6.503***	4.651***	1.475
Other Children	12.904***	11.935***	3.060***
Stay Home	131.843***	366.906***	38.052***
Teacher	10.558***	26.218***	3.493***
Standing in Front of Class	2.392	9.386***	38.685***
Spelling	28.733***	9.141***	3.433***
Teacher Home	0.895	30.421***	4.451***
Liver	1.371	13.314***	14.836***
Mirror	0.274	8.225***	1.964**
New Child	22.778***	10.725***	1.302
School	6.571***	15.916***	0.972

* Table entries are F-ratios for each main effect.

** $P < .05$

*** $P < .01$

3.0 Teachers

Our research plan had anticipated comparing two groups of teachers; those who had COP aides and those who had no aides. The five sites who had been selected to provide us with these teachers were unable to meet their assigned quotas. In consultation with the Office of Education, the design was modified to include teachers with aides other than COP. The resultant reduced sample consisted of:

Group I 30 Teachers with COP aides
Group II 24 Teachers without aides
Group III 13 Teachers with aides other than COP

Data on this third group of 13 teachers was aggregated and is included in the cross-tab run in Appendix Volume II, pp.143-210 (See: "Aide Type - Other"). However, we are restricting our present discussion to Groups I and II. This decision is appropriate not only because of the very small size of Group III (13) but also because their aides' time in the class was distributed differently from the COP aides; that is,

Time teacher has aide in class	COP Aided Teacher (30) %	Other Aide Teacher (13) %
Full Time	10	39
50 to 99%	53	15
Less than 50%	33	46
NA	4	0

To control for confounding of type of aide and time in classroom would require a further breakout of cells with bases lower than 5 in several cases.

The discussion which follows, then, describes responses of teachers with COP aides and teachers with no aides.

In assessing impact on teachers of having a COP aide we were interested primarily in two effects. First, we wanted to see whether a teacher with a COP aide could devote more of her time to instructional duties than a teacher who had no aide. Secondly, on the assumption that the COP aide might sensitize the teacher to the needs of her children we wished to compare the number of extra-classroom school related activities reported.

As to the first, teachers with COP aides report that 58% of their time is spent on instruction; 45% of the non-aided teacher's time is so spent. While this difference is in the expected direction, t-tests on the difference between means show them to be non-significant. The same holds for extra classroom activity. The list below shows the expected trend, but t-tests did not establish significance.

	Teachers with COP aides (30)	Teachers without Aides (24)
Average number of field trips taken with class during last school year	3.2	1.7
Average number of parent-teacher conferences attended during last school year	21.3	18.3
Average number of visits to students' homes made during last school year	7.8	3.2

Teachers with COP aides were generally satisfied with COP (90%) with 57% giving it the highest rating of "very satisfying."

When asked to rank success of goals of COP, teachers responded differently from both principals and superintendents. Table XIII shows these rankings. Teachers with COP aides were the only respondents whose mean ranking was, "to raise achievement levels among low-income children." (All other groups ranked

first, "to attract low income people to a career in education"). On the evaluators' visits to the sites, teachers we spoke to were convinced that their students were doing better work and learning more by having an aide in the classroom. Most teachers want an aide in their classroom. Of those we sampled, 97% who had a COP aide stated they preferred a teacher aide in the room. Even those who did not have an aide wanted one; 83% preferred a teacher aide in the room.

In the light of the results of the achievement test scores for students with and without COP aides and, beyond this study, the general negative results when one attempts to assess the impact of educational programs on comparable groups of children one is drawn towards the conclusion that either the teachers are incorrect in their perception or the tests are insensitive to achievement changes in the targeted children's group.

We are dealing here with a number of issues being vigorously debated in educational circles today. It is recognized that achievement tests tend to discriminate best in the middle ranges. They have poor discriminability at the low end of the performance continuum. COP aides are most frequently placed in classes where the learning needs of the children are greatest, that is, children who fall at the lower end of the achievement continuum. To use an instrument which is insensitive to change within this range prejudices the results.

The challenge of an impact evaluation may well be to explore with teachers what they mean when they say that their children are doing better work as a result of COP aides (or any other program) and to develop, based on these explorations, reality based criterion of improvement in achievement/performance of these targeted children.

TABLE XIII

MEAN SCALE VALUES OF "SUCCESS OF GOALS OF COP"

AMONG SELECTED RESPONDENTS

	Sixteen Sites			Three Large Sites	
GOALS RANKED	PRINCIPALS (179)	SUPERINTENDENTS (20)**	TEACHERS+ (30)	PRINCIPALS (167)	SUPERINTENDENTS (3)
To attract low-income people to a career in education	2.62	1.70	2.80	2.01	1.33
To encourage parents and community participation	4.11	3.30	3.84	3.37	1.67
To improve teacher training through a work-study program	2.63	3.10	2.56	3.36	3.00
To raise achievement levels among low-income children	2.68	3.15	2.48	2.77	4.67
To improve the efficiency of professional staff	2.88	3.75	3.32	3.24	4.33

* QUESTION: Five goals of COP are listed below. Please tell us how well you think these goals are being met in your school system. Rank them on a scale from 1 (most successful) to 5 (least successful). (ENTER A '1' TO INDICATE WHICH OF THESE GOALS HAS BEEN MOST SUCCESSFULLY MET; ENTER A '2' TO INDICATE THE GOALS NEXT MOST SUCCESSFULLY MET AND CONTINUE TO '5' TO INDICATE THE GOALS LEAST SUCCESSFULLY MET.)

** Accounts for two sites with multiple Superintendents.

+ With COP aides.

4.0 Principals

Principals of elementary schools which used COP aides were surveyed by means of a self-administered, mail back questionnaire. A response rate of over 95% was realized; 179 principals returned their questionnaires.

The majority of principals found the experience of COP aides in their schools "very satisfying" (60%) or "somewhat satisfying" (26%). When asked to indicate changes they would like to see instituted regarding COP aides, the most frequently cited was the desire to have "more aides in regular classrooms" (78%).

The principals perceive the major impact of COP aides in the increase in individualized instruction of children. Thus,

- 85% see their classroom teachers as having more time to work with individual children;
- 87% consider increased tutoring of individual children as an impact of the program on structuring of the school;
- 59% would like to see more COP aides to work with "special" children.

Do principals perceive COP aides as different from other teacher aides? Of the principals surveyed, 63% had had aides in their school before COP, that is 113 principals had experience with both COP aides and other teacher aides. Of these, 62 or 55% indicated that they saw differences between COP aides and other teacher aides.

When asked to specify what the differences were, the comments fell into the following categories:

Positive comments: 86%
Negative comments: 14%

The positive comments referred primarily to the aides' professionalism and dedication. (e.g., "...better understanding of the role of teaching," "all very dedicated," "better qualified," "more professional attitude," "much more reliable," "higher degree of preparation and proficiency," etc.) Negative comments showed no trends suggesting that the comments may be idiosyncratic to a single experience with aides (e.g., "COP aides have harder time relating to kids," or "need more direction--occasionally personal problems interfere with school work, also scheduling conflicts.")

5.0 Superintendents (LEA's)

The survey of superintendents was intended to explore changes in the school system that might be attributable to the presence of COP and also to demonstrate attitudes of the school system towards COP. Although 16 individual sites were surveyed, two of them (Denver, Colorado and Belcourt, North Dakota) operate in several distinct school districts; Denver in two; Belcourt in four. Therefore, the data were aggregated three ways; for 14 sites having a single school district; for the two sites with six superintendents and for the sixteen sites combined. Table IV presents selected data from responses to the superintendents questionnaire for the sixteen sites combined. By studying Table XIV, several observations can be made.

- The superintendents show high regard for COP aides. Fourteen of them consider the experience of COP aides in the school system "very satisfying" while only one out of twenty viewed it as "somewhat unsatisfying." Furthermore, most* of the superintendents wanted more COP aides in regular classes (19), more COP aides to work with special children (16), and more COP aides to work with minority children (13).

- Since COP entered the school system, 17 superintendents noted the existence of increased linkages between the school system and community groups; half of them (10) noted increased access to federal funds.

- Changes in hiring practices show a mixed picture with no predominating trends.

- When asked to rank how well five listed goals of COP are being met, the highest mean rank was "to attract low-income people to a career in education."

* Total = 20

TABLE XIV

SELECTED MEASURES OF SUPERINTENDENTS OF THE SIXTEEN SITES COMBINED
(Total number of superintendents = 20)

	TOTAL SUPERINTENDENTS (20)
Experience in having COP aides	
Very satisfying	16
Somewhat satisfying	2
Neither satisfying nor unsatisfying	1
Somewhat unsatisfying	1
Very unsatisfying	0
Would like to see following changes	
More COP aides in regular class	19
Fewer COP aides in regular class	1
More supervision of COP aides by training staff	10
More aides to work with special children	16
More aides to work with minority children	13
Changes in System since COP	
Increased linkages between school system and community groups	17
Increased access to federal funds	12
Increased discussions with local teachers unions	6

Changes in hiring practices in past two years	No longer required/ allowed	Now required/ allowed
National Teachers Exam	5	2
Full state certification	0	9
Personal interviews	1	8
Hiring of aides/teachers who have not met state certification requirements	4	4
Partial/temporary certification	4	5

No changes 7
No answers 1

(Table XIV cont'd)

Attribute above Changes to COP	
Yes	6
No	5

Rank-order of success of meeting COP goals	Mean Rank
To attract low-income people to a career in education	1.55
To improve teacher training through a work-study program	3.00
To encourage parent and community participation	3.10
To raise achievement levels among low-income children	3.10
To improve the efficiency of the professional staff	3.50

6.0 College Administrators (IHE)

To assess the impact of COP on institutions of higher education, Abt Associates conducted interviews with representatives from all of the colleges and universities who were giving courses to COP aides in the sixteen sampled sites. There were a total of 23 institutions. The interview was conducted by means of a closed-ended questionnaire. Respondents were deans, other administrative officers and on occasion teachers of COP aides. They were drawn from a list submitted to us by the individual Project Directors. In collating the results each institution was counted once.

The impact of COP on institutions of higher education must be assessed within the limitations of the short time period that the COP program has been in existence. All of the 23 institutions made adjustments and accommodations in order to include COP students in their program. These ranged from simple course scheduling changes to radical changes in admissions policies.

The kinds of course changes made in order to accommodate COP students are described in Table XV below.

TABLE XV

COURSE/FACULTY ACCOMMODATIONS TO COP AS REFLECTED IN CHANGES IN THE LAST TWO YEARS (Among 23 Institutions of Higher Learning)

Courses	
Content Changes	(23)
simplified	5
more related to work experience	10
more minority group content	3
generally reflective of "needs" of COP	10
Meeting Time Changes	13
Location Changes (i.e., off campus)	6
Faculty	
Hired specifically for COP	19
Specialists in paraprofessional training	5
Personnel from local school system	8
Representatives of minority groups	10
From low-income groups	3

As can be seen, all the schools changed their course content. The most frequent change was a shift from less theoretical to more work-related content. The kind of work experience most frequently cited by the administrators was field work and practicum.

More than half the institutions changed course meeting times to accomodate COP; six gave courses off campus.

What is unique about the above is that these courses were full credit courses. This is attested to by the fact that 17 of the institutions reported that courses, designed for COP, were usually open to non-COP students.

The flexibility of these institutions is further documented by the following:

- 14 colleges reported hiring faculty especially for the COP program. Of these, 10 stated that they had hired representatives of minority groups.
- 12 colleges stated that changes in admissions requirements had been made in the past two years.
- 16 stated that changes in degree requirements had been made in the past two years. As detailed in Table XVI below, these changes were all in the direction of liberalizing the regulations.

While the data describe changes already made, the shortness of the program makes the full impact of COP on these institutions difficult to assess. The COP presence on campus, the unique student group it represents, its academic success or failure must surely have an effect on faculty and administration attitudes. That this is indeed the case is demonstrated by the following sampling of direct quotes from the IHE questionnaire. These comments were made by college faculty and administrators and represent half of the sixteen sites:

" The COP program has served as a catalyst for change or at least re-evaluation throughout the college. We have experienced great success in COP and this caused us to look more closely at requirements for all children."

"We are on the threshhold of additional significant changes."

"The new program for regular students reflects lessons we've learned from working with COP and co-op students. The emphasis in the new requirements is on much more field experience."

"The program has had a beautiful effect on changing faculty in Arts and Sciences and in Education. The cooperation and understandings that have developed; the team teaching and individualizing of instruction areas in liberal arts is something that is unique. We believe that this will help bring about change within the university."

"Instituted the junior year internship as a direct result of COP..."

"Working in the program is a real pleasure and at times a challenge. What some students may possibly lack in basic skills, they compensate for in energy, enthusiasm and motivation. Generally, they do as well or better than regular college students."

"The COP and ACTION programs have shown the faculty that students can succeed in a variety of program formats in the college setting; that field centered programs have a great deal of merit."

"There will be some invaluable spin-off as we consider curriculum reform and experiment with state requirements for teacher certification going from approved program to individual competency...It has been an inspiration for many disadvantaged students who want to get into the program for learning's sake and vocational self-improvement instead of dollar subsistence."

Thus, in only two years, the COP program has effected changes in institutions of higher learning both in present status and future expectations. To this extent it has demonstrated a noticeable impact.

TABLE XVI

SPECIFICATIONS OF CHANGES IN ADMISSION/DEGREE REQUIREMENTS IN INSTITUTIONS WHICH HAVE EXPERIENCED SUCH CHANGES IN THE PAST TWO YEARS (Among 23 Institutions of Higher Learning)

Institutions Reporting Changes in Admission Requirements	12
Open admission for COP only	3
Open admission for all	2
Acceptance of GED	2
Reduction of weight assigned standardized admission test (e.g., CBS)	3
Waiver of Diploma, GED, other requirements after specified number of credits completed (i.e., student enrolled first as special student)	2

Institutions Reporting Changes in Degree Requirements	16
More flexibility/fewer required courses	6
Reduced number of credits	1
Reduced GPA requirement	2
Credit given for experiences	2
New certification program	2
Changes not specified	3

7.0 State Education Agencies (SEA's): Survey Findings

One implicit goal of COP is to effect changes in state teacher certification regulations to better accommodate the career preparations of paraprofessionals. In order to assess COP's success in meeting this goal Abt Associates Inc. conducted a telephone survey of state certification officers in each SEA to determine the extent to which changes have occurred or are planned in each state and the extent to which the certification officers see their changes as responding to the needs of COP participants. Interviews were complete with 51 of 52 possible certification officers*, the exception being Massachusetts whose officer, despite 10 attempts, could not be reached.

When discussing changes, we asked the certification officers about a specific set of eight changes. We were interested in whether changes in these areas had occurred in the past three years or were anticipated in the near future. These areas concerned changes such as:

a. Granting of provisional certification
b. B.A. no longer required
c. Number and/or type of courses required
d. Credit given for work experience outside of the teaching profession
e. Credit given for hours of teaching beyond required practice teaching
f. Exemptions made for particular Local Education Agencies (from state regulations)
g. Granting of special certification for teachers' aides
h. Extensions in time requirements for certification

(In addition, the respondents were asked to specify any other changes which had been made or were planned.)

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* Includes Puerto Rico and District of Columbia

WHAT KINDS OF CHANGES IN STATE CERTIFICATION RULES HAVE BEEN MADE OR ARE PLANNED?

The number of positive responses to each of the eight changes listed above constitute an indicator of the amount of change occurring in the SEA. (A positive response is one in which the specifics of the change described are consonant with the purposes of COP.) Table XVII summarizes these changes.

The most frequently cited changes were as follows:

- Granting of provisional certification
- Number and/or type of courses required
- Credit given for work experience outside of the teaching profession

(See following page for Table XVII.)

TABLE XVII

Changes Made or Planned in State Certification Rules
As Cited By State Certification Officers

Area of Change	Number of States: Changes Made Last Three Years	Number of States: Changes Planned*
a. Granting of provisional certification	23	16
b. B.A. no longer required	4	7
c. Number and/or type of courses required	23	23
d. Credit given for work experience outside of the teaching profession	9	16
e. Credit given for hours of teaching beyond required practice teaching	2	4
f. Exemptions made for particular Local Education Agencies	4	5
g. Granting of special certification for teachers' aides	6	11
h. Extensions in time requirements for certification	5	8
Don't Know	0	2

* The total of 76 changes made in the last three years and 90 anticipated changes represent responses of 46 SEAs; 5 SEAs neither made nor plan changes.

IS THERE ANY RELATIONSHIP BETWEEN PRESENCE OF COP AND CHANGES IN STATE CERTIFICATION RULES?

The scope of the present research permits us to correlate the presence of COP and the number of changes. Of course, while a simple correlation of two variables is never sufficient to establish causality, the lack of a correlation indicates that there is little possibility of any causal relationship. With this in mind, we proceeded to investigate the relationship of the presence of COP projects and the amount of change.

Since most states have at least one COP project, we cannot compare states with projects to those without. However, it is possible to quantify the degree of presence of COP in a state in several ways. We have chosen to look at the number of projects and the number of participants in a state as our variables. The question we are asking is, "Have states with more projects and/or participants made or planned more changes?"

The table below shows the correlation obtained between the number of sites in a state/number of participants in a state and the number of changes made/number of changes planned:

Correlations of Changes Made/Planned
And Number of Sites/Participants in a State

	Number of Changes Made	Number of Changes Planned
	(51)	(49)*
Number of Sites	+.19	+.35
Number of Participants	+.26	+.53

* Base reduced by 2 respondents who answered "Don't Know."

From the correlations in the preceding table we note:

- All relationships are positive
- Number of participants are more closely related to extent of change than number of sites, particularly in "planned changes."
- COP is strongly associated with planned change.

The latter finding reflects the fact that COP is a new program whose impact would be expected to take some time in extending upward. (An alternate interpretation would hold that the positive correlations reflect the fact that states that were interested in change were interested in COP.)

It should be noted that the correlations presented are exact values rather than sample estimates. Since we have sampled 51 out of 52 elements of the universe, we may assume that any observed differences are real differences rather than possible sampling errors. We also assume relatively error-free measurement, at least to the extent that the respondents were both knowledgeable and truthful.

In interpreting these results we must take into consideration possible causes for the covariation of COP and change that has been found. In the case of the strongest relationship (number of participants and number of planned changes), the variables have approximately 27% of their variance in common.

However, one must be cautious in interpretation of results. Correlation does not mean causation; attribution does not follow from significant correlations. Rather, significant correlations suggest further lines of inquiry. The present study has shown that there is some kind of relationship between the presence of COP projects in a state and the amount of change in the state's certification requirements. Further investigation is needed to establish if there is some causal relationship between the variables or if the correlation is merely a spurious one, due to both variables covarying with some other variables not measured in the present study.

Additional Data Analysis for SEA: Attribution of Change to COP

One possible strategy that can be used to investigate the direct impact of COP on the certification requirements is to ask persons in a position to know if they perceive COP as having any effect. Clearly, state certification officers are in such a position, and our interviewers asked them for their opinions on this subject. The exact questions asked were:

- First Question: "In your opinion, will these future changes (in certification requirements) reflect a concern for the participants in the Career Opportunities Program, that is, COP?"
- Second Question: "In your opinion, do your present teacher certification regulations reflect a concern for the participants in the Career Opportunities Program, that is, COP?"

Shown below are the response of certification officers of SEAs to these questions:

	First Question (51)	Second Question (51)
Yes	21	20
No	5	21
Don't know	7	11
No changes planned	18	Not Applicable

The certification officers of two states, when asked the first question, replied that they had never heard of COP. As a result, they were not asked any further questions about the responsiveness of their state. It is interesting to note that one of the states (Kansas) has no COP projects, whereas the other (Louisiana) has four projects.

An index of responsiveness to the needs of COP participants was constructed from the responses to these two questions. A state which now perceives itself as fully responsive to COP would answer "no" to the first question(about planned changes) and a state which is not now responsive would answer "no" to the second (present requirements). However, states that are not presently responsive and have no plans to become so would answer "no" to both. This mixing of states where positive changes have or will occur with states that are not responsive could cause some problems in the analysis of these results. Consequently, we have constructed a composite index of "responsiveness to COP" from the responses to the two questions. States that answered "yes" to <u>either</u> question are considered "responsive." States that did not are considered "nonresponsive." On this scale 31 states are "responsive" to the needs of COP and the remaining 20 are considered "nonresponsive." Point biserial correlations relating the presence of COP with "responsiveness" showed positive correlations of +.19 for number of sites; +.26 for number of participants.

We conclude therefore that not only is there a significant relationship between presence of COP in a state and the amount of change reported, but also that there is a relationship between that presence and the extent to which these changes are seen as taking into account the needs of COP.

III. CONCLUSIONS AND RECOMMENDATIONS

While the problems of conducting an impact evaluation of an educational program are familiar to most readers, it is appropriate to review them now lest we neglect to temper our conclusions by the reality constraints we labor under. We wish to make the following preliminary observations.

- It is very difficult to assess impact of any relatively new program. Start-up time can be conservatively estimated at six months to one year. It takes at least that long to get a program running smoothly.

- Teacher aide programs exist in most of the sites where COP is located. Therefore, it does not appear in the classroom as something totally unique. It is not a treatment that can be applied to a population that is "uncontaminated." In other words, a non-treated control group is difficult to find. This assumes that an appropriate control group would be a non-teacher-aided one.

- Exogenous factors can mask impact effects should they occur.

- When the evaluator is forced to leave decisions and actions in the hands of non-research oriented local administrators, deterioration of field control and subsequent reliability of data is inevitable.

These problems are ubiquitous to social science research; they were present in this study. We feel that the strategy of federal intervention to facilitate evaluative studies could benefit greatly from some hard study.

The findings show that the program is successful when measured by the following impacts:

- COP aides show strong motivation to continue in the program and become teachers. They have a positive professional view of themselves. They are representative of the population originally targeted for this program. As such, the program has provided a vehicle for upward mobility for the aides.

- Satisfaction with the program is high among principals, superintendents, teachers, and COP aides.

- Principals wanted more COP aides in their classrooms and felt that a major impact the aides had was to increase the amount of individual instruction scheduled for children. They preceived COP aides as more professional--more serious than other teacher aides.

- Superintendents saw the COP aides as increasing linkages between the school system and community groups. (The COP aide frequently acts as an "interpreter" of neighborhood needs to the administration.) They wanted to have more aides for both regular classes and for special students.

- Institutes of Higher Education reported changes in their course content, schedules, college requirements not only as an initial accommodation to COP in the first place, but also as a result of their COP experiences. These changes, present, planned, or being considered for all students were in the direction of performance based teacher education.

- State Education Agencies showed a positive relationship between presence of COP and amount of change reported.

On the negative side is the lack of evidence for impact on student performance/attitudes. Furthermore, while teachers were enthusiastic, differences in their performance, while in the expected direction for each measure, were not significantly different from teachers who did not have COP aides.

On balance, the program can be judged as successful in its impact on both COP aides and the participating IHE's. The opportunity for upward mobility and the eye-opening experience which many academicians have had as a result of the COP presence argues well for the continuation of this program.

APPENDIX

THE THREE SITE SURVEY: FINDINGS

THREE-SITE RESULTS

The main COP impact evaluation was conducted in 16 projects selected from a restricted set of COP projects funded in fiscal 1972. It was felt that extremely large sites (with more than 200 participants), located in urban areas, would bias the results because of their size. Rather than assume that such sites are qualitatively the same as smaller sites, and that there was cause for combining them with the other sites, it was decided, in consultation with the client, to study three such sites and compare the findings of this substudy with those of the main study. That is, rather than assume them to be similar (or different), we treated the question as a testable hypothesis. The three sites selected by OPBE and the COP program officer were:

- Chicago, Illinois
- Detroit, Michigan
- Bedford-Stuyvesant (Brooklyn), New York

The survey effort at these sites was, as agreed, a limited one. Students and classroom teachers were not involved as respondents. The COP participants themselves responded to the spring questionnaire only; they did not receive the fall instrument and were not tested with the ABLE.

In addressing the COP participant data, it became evident that certain analyses could not be performed. Obviously, we could make no statements about the basic skills of these participants, since we had no measures of them. Neither could we discuss changes in their career aspirations over time, since we had only one set of data on the participants. Further, we could not adequately investigate sex differences, since there were too few males in the sample (only 23 males out of 212 participants in the three sites).

When the data was sufficient to allow us to perform the analyses of interest, our results were similar to those of the 16-site sample, with a few notable exceptions.

It will be possible to make some, but not all, of the same descriptive analyses for the participants in the three sites as were made for the total sample. In such cases, a description of the three sites will be made and then compared with the 16-site sample.

WHO ARE THE COP AIDES?

Overall, in the three sites, we find that they tend to be:

- From families with incomes less than $6000 (53%)
- Drawn from ethnic minorities (94%; 81% Black and 13% Spanish)
- Female (89%)
- Neither young nor old (50% are 35 or older; 27% are 40 or over and 12% are younger than 25)
- High school graduates (92%)
- Previously teacher aides (81%)
- Community residents (80%)

The magnitude of difference between first and second year participants observed in the 16 sites is not as evident here. There are small differences, not more than one or two percentage points, and they are not statistically significant.

A possible explanation for this lack of shift is that the supply of minority, low-income candidates in the urban areas served by these three projects was not depleted by the first year's recruiting. The project directors indicated on their questionnaire that, if recruitment practices changed at all, it was in the direction of being more selective; selective on the basis of motivation rather than qualifications (previous education, etc.), indicating that there is an abundant supply of possible participants.

When the three sites' participants are compared with the participants of the other sites on the above variables, we may note some similarities and some marked differences. Responses

to family income (53% vs. 51% under $6000) and previous education (92% vs. 93% high school graduates) are virtually identical. The size of the female majority is greater in the three sites (89% vs. 74%). There are, however, significantly more minorities (94% vs. 68%), community residents (80% vs. 53%) and previous teacher aides (81% vs. 46%). The ages of urban participants are also more variable than those in the 16 sites. It is quite likely that these differences simply reflect the composition of urban areas, the differences resulting from the fact that there were many non-urban projects included in the 16 project sample. For example, the opportunity for employment as teacher aides (supported by Title I, etc.) is much greater in urban areas.

WHAT ARE THE CAREER PLANS OF COP AIDES?

Aides in the three sites were asked about their career plans for the next year and for the next three years. Their responses were quite similar to those of the participants in the 16 sites. Overall, 88% of the participants plan to be in COP next year (as compared to 89% in the 16 sites) and 43% plan to be in COP three years from now (as compared to 46% of those in the 16 sites). When this is broken down by year in program, 57% of the first year participants and 36% of the second year participants plan to remain in COP until three years from now. This split is similar to that of the 16 sites. With respect to other plans for three years from now, 58% indicated they plan to become teachers then, while only 6% plan to go out of education entirely. Surprisingly, less than 2% plan to return to positions as teacher aides. Many more participants in these sites indicate that they will use their training as intended by COP (that is, in the classroom) than participants in the 16 sites.

WHAT IS THE COP EXPERIENCE?

The participants in the three large urban sites have a very positive perception of COP; 93% are "satisfied" or "very satisfied" with the program (with "very satisfied" accounting for 59%). This is quite similar to the response pattern of participants in the 16 sites, although somewhat less positive. There were absolutely no differences between the responses of first and second year participants to this item.

When asked what aspect of the program they liked the most, participants in the three sites responded as follows:

- Chance to get an education (60%)
- Financial assistance (17%)
- Project staff (12%)

This pattern is similar to that of the participants in the 16 sites. When asked what they liked the least, participants in the three sites responded as follows:

- No complaints (14%)
- Content of program (12%)
- Communication with staff (12%)

In both of the above situations, no other item was marked by more than 10% of the participants. The pattern of dislikes among the participants in the 16 sites is slightly different, although "no complaints" is also the response most frequently given.

Since the educational aspect of the program is very important to most participants, we should look a bit more closely at it. We find that

- Most (69%) of the courses are required
- The Modal number of courses taken is 3 (37%), with 55% taking 3-5 courses and 73% in the 2-4 course range. (This indicates that participants in these sites have somewhat fewer courses than those in the 16 sites)

- Most (91%) rate the course work "about right for me"
- 68% spend fewer than 10 hours on college assignments

HOW DO COP AIDES FEEL ABOUT THEMSELVES AS PROFESSIONALS?

COP participants were asked to rate themselves on specified performances as compared with other aides. The following table presents the results of this. It can be noted that aides have a very positive self image.

SELF-RATINGS OF COP AIDES AS COMPARED WITH OTHER AIDES

(N=212) (Percentages)

	Percent rating self as:			
	Better	About same	Not as good	No response
Presenting lessons	36	53	3	8
Getting ideas across	44	46	2	8
Getting along with parents	43	51	1	5
Understanding child's needs	52	43	1	4
Ability to instruct individually	45	50	0	5
Ability to tutor	44	51	1	5
Ability to teach in small groups	51	44	1	4
Lesson planning	28	54	9	9
College performance	24	65	3	8

Participants were also asked if they ever experienced difficulties in certain areas. Responses to this item are contained in the following table:

FREQUENCY OF FINDING ACTIVITY A PROBLEM (Percentages)

Activity	Very freq.	freq.	occas.	Seldom	Very Seldom	No Response
Giving a class lesson	2	1	15	30	35	17
Getting children to work with me	3	0	9	23	51	15
Getting along with teacher	2	2	5	12	61	17
Maintaining discipline	3	7	26	23	30	11
Getting children to like me	3	1	3	13	63	17

It appears that the COP participants in the three large sites are, in general, much like COP participants throughout the country (as represented by the sample of 16 sites). What differences do occur are likely the result of special conditions of urban areas rather than the result of some difference in the quality of the program.